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PFIAB/NSC review completed.

This document consists of 6 pages.  
No. 1 of 4 copies, Series A.

DOE review completed.

March 29, 1974

## MEMORANDUM

To: Wheaton Byers

From: Edward Teller

The purpose of this memorandum is to bring to the attention of the PFIAB some information of which I have become aware recently. The occasion was a review that I attended of a briefing that was prepared at LLL for presentation at a symposium sponsored by the Atomic Energy Commission in Germantown. The purpose of the symposium was to discuss the overall possibility and subsequent consequences of a return to atmospheric nuclear testing by the Soviet Union.

The question of the Russians returning to testing in the atmosphere has always been regarded by me to be one of great importance. As you may recall, during the latter part of 1961 the Russians ended a three year testing moratorium with only two days of warning--then they conducted [redacted] intensive series of testing over the next fourteen months [redacted]. Any return to atmospheric testing in the future by the Soviets would, I expect, be the culmination of very extensive and time consuming preparations.

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A possible example of such preparations was the driving motivation for the AEC symposium. Perhaps you have been informed about construction of six ICBM silos at Location 23 of the Shagan River Test Site of the Semipalatinsk Nuclear Weapons Proving Ground.

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My colleagues at LLL are presently addressing the problem presented by Location 23.

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LLL's presentation at the symposium was in two parts. One consisted of a description of our calculational efforts which I have just mentioned. The other was entitled "Location 23 in Context" and is the main purpose for my writing this letter.

As the title might imply, this presentation did not emphasize the test preparations at Location 23 but did use them as a point of departure for considering a number of other activities that have been observed in the Soviet Union and which can be related directly or indirectly to Location 23. It is not my intention to repeat this presentation herein but to give you a general view of the vast amount of information that is available which can be related to the question of what the requirements and capabilities of the Soviet Union are with regard to a possible resumption of atmospheric testing.

The information that we think relates to this question of a return to atmospheric testing falls into several major categories, the first being Location 23 itself.

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Other major categories from which information can be extracted and used in the analysis of Location 23 are the ICBM systems that are associated with these silos and the activities that are presently going on in the Soviet nuclear testing program and at their nuclear test facilities.

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The most relevant part of the presentation is addressed to the general topic of atmospheric testing. In this instance a review has been made of what indicators were available to the U. S. prior to the Soviet return to testing back in 1961.

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With hindsight, of course, we can recognize that we did observe, by virtue of U-2 photography, the construction of hardened buildings at the Semipalatinsk NWPG which were to be subjected to a nuclear blast some two years later.

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To evaluate the probability of an atmospheric test resumption by the Russians, we have borrowed heavily on the past to establish those test centers that have played a significant role in past nuclear testing by the Soviets. We are also evaluating the possible requirements that the various forces of the Soviet Union might have that require nuclear testing in environments forbidden under the present treaty. This kind of an approach does two things. First, it places a potential limit on the capabilities that the Soviet Union may have for this type of testing and, second, it allows us to keep score on how much evidence we have compared to what we might have in regard to how their capabilities are being developed.

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To evaluate the modifications of their force structure like the introduction of the MIRVs and the associated on-board computers. This could render Soviet missiles vulnerable to "pindown," a circumstance which would not exist in the earlier and cruder Russian rockets.

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To demonstrate Russian capabilities to the world and thereby to gain leverage in subsequent diplomatic moves. This possibility includes the beginning of sustained pressure on the United States and the free world, or it may be related to some special important demand in international relations.

To test the results of ABM research which, we believe, has proceeded without abatement since the Moscow Treaty (actually, the Moscow Treaty did not rule out research but only deployment). A successful test may then be followed by abrogation of the Moscow Treaty and rapid deployment of tested ABM equipment.

To widen the margin of Russian superiority in a decisive fashion. The test series itself may then be followed by an offer of a comprehensive test ban which would rule out an American test series whose effects could balance, in the long run, the results of knowledge gained by the Russians.

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In my opinion, it is impossible to say, on the basis of evidence available at present, whether and when the Russians are planning to break the Limited Test Ban Treaty. The fractional evidence available now makes it, however, imperative to keep an eye on this possibility, particularly because test resumption by the Russians may have serious consequences, as indicated above.

The prevailing opinion of the CIA (as indicated at the conference held in Germantown) is that the Russians do not intend

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to abrogate the test ban. This opinion may have justification, but the danger exists that due to this opinion we shall exercise less than sufficient diligence in looking for evidence on the possibility of abrogation. In this respect, there is a danger that events of 1961 may be repeated.

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**Routing Slip**

TO:

		ACTION	INFO.			ACTION	INFO.
1	DCI			11	IG		
2	DDCI			12	<b>COMP</b>		
3	DDS&T		✓	13	SAVA		
4	DDI		✓	14	ASST/DCI		
5	DDO			15	AO/DCI		
6	DDM&S			16	EX/SEC		
7	D/DCI/IC		✓	17			
8	D/ <b>WFO</b>	✓		18			
9	GC			19			
10	LC			20			

SUSPENSE

Date

Remarks:

① Admiral Anderson handed me this today - I commented to him + Dr Teller that we have a review of this question under way -

② Pls draft an interim comment to Dr T ~~that~~ describing our study plan & promising him a copy of the results - and suspense them so he gets one

③ Include Dr T's WFC

DCI/DCI